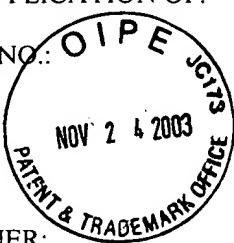


Attorney Docket: 0325.00369
AF/2701
V/C

IN RE APPLICATION OF: 2182
SERIAL NO.: 09/590,831
TITLE: SPEED POWER EFFICIENT USB METHOD
FILED: June 9, 2000
EXAMINER: Perveen, R.
ART UNIT: 2182



COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed please find an appeal brief with attachments and a postcard along with the fee calculation below:
FEES CALCULATION FOR ENCLOSED AND EXTENSION REQUEST (IF ANY)

	Claims Remaining	Highest No. Previous	Extra Rate	Additional Fee
Total Claims	19 minus	20 =	0 x \$ 18.00	\$ 0.00
Independent Claims	3 minus	3 =	0 x \$ 86.00	\$ 0.00
Multiple Dependent Claim First Added			+ \$290.00	\$ 0.00

TOTAL IF NOT SMALL ENTITY . . . \$0.00

SMALL ENTITY STATUS - If applicable, divide by 2 \$0.00
 Verified statement enclosed, if not previously filed.

Applicant also requests a _____ month extension of time
for response to the outstanding Office Action. The fee is \$0.00

Fee set forth for Appeal Brief \$330.00

TOTAL FEE \$330.00

The Commissioner is hereby authorized to charge any overpayment or underpayment of the above fee associated with this
Communication to Deposit Account No. 50-0541. A duplicate copy of this sheet is attached.

CHRISTOPHER P. MAIORANA, P.C.

By:

Christopher P. Maiorana
Registration No.: 42,829

24025 Greater Mack, Suite 200
St. Clair Shores, Michigan 48080
(586) 498-0670

I hereby certify that this letter, the response or amendment attached hereto are being deposited with the United
States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450,
Alexandria, VA 22313-1450 on November 21, 2003.

By: Mary Donna Berkley
Mary Donna Berkley



Our Docket No.: 0325.00369

4010/M
11/26/03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RECEIVED

In re Application of:

DEC 02 2003

Applicant: Ronald H. Sartore et al.

Technology Center 2100

Application No.: 09/590,831

Examiner: Perveen, R.

Filed: June 9, 2000

Art Group: 2182

For: SPEED POWER EFFICIENT USB METHOD

I hereby certify that this letter, the response or amendment attached hereto are being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on November 21, 2003.

By: 
Mary Donna Berkley

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellants submit, in triplicate, the following Appeal Brief pursuant to 37 C.F.R. §1.192 for consideration by the Board of Patent Appeals and Interferences. Appellants also submit herewith a PTO-2038 Form in the amount of \$330.00 to cover the cost of filing the opening brief as required by 37 C.F.R. §1.17(f). Please charge any additional fees or credit any overpayment to our Deposit Account Number 50-0541.

11/26/2003 BSAYASI1 00000054 09590831

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Docket Number: 0325.00369
Application No.: 09/590,831

TABLE OF CONTENTS

- I. REAL PARTY IN INTEREST
- II. RELATED APPEALS AND INTERFERENCES
- III. STATUS OF CLAIMS
- IV STATUS OF AMENDMENTS
- V. SUMMARY OF INVENTION
- VI. ISSUES
- VII. GROUPING OF CLAIMS
- VIII. ARGUMENTS
 - Selected groupings of the claims are each patentable over Dischler
 - Conclusion
- IX. APPENDIX

I. REAL PARTY IN INTEREST

The real party in interest is the Assignee, Cypress Semiconductor Corporation.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences known to the Appellants, Appellants' legal representative, or Assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-19 are pending and remain rejected. The Appellant(s) hereby appeal(s) the rejection of claims 1-19.

IV. STATUS OF AMENDMENTS

Appellants are appealing a final Office Action issued by the Examiner on April 24, 2003.

V. SUMMARY OF INVENTION

The present invention concerns an apparatus comprising a peripheral device (54) and a host device (52). The peripheral device (54) may be connected to the host device (52). The speed of the peripheral device (54) may be adjusted in response to one or more predetermined conditions.

VI. ISSUES

The issue is whether claims 1-19 are patentable under 35 U.S.C. §103 over Dischler.

VII. GROUPING OF CLAIMS

Appellants contend that the claims of the present invention do not stand or fall together. In particular, the following groups of claims are separately patentable:

- Group 1: Claim 1 stands alone.
- Group 2: Claim 2 stands alone.
- Group 3: Claim 3 stands alone.
- Group 4: Claim 4 stands alone.
- Group 5: Claims 6-9 stand together.
- Group 6: Claim 10 stands alone.
- Group 7: Claim 11 stands alone.
- Group 8: Claim 12 stands alone.
- Group 9: Claim 13 stands alone.
- Group 10: Claims 14-19 stand together.

The claim(s) in each group is(are) separately patentable from the claim(s) in any other groups. During prosecution, each independent and dependent claim is considered to be separately

patentable over every other claim.¹ As such, each of the above groups is considered to be separately patentable over every other group.²

In particular, groups 1-5 concern a circuit, group 6 concerns a means plus function and groups 7-10 concern a method. Since the means plus function claim of group 6 and the method claims of groups 7-10 do not necessarily encompass all the structure comprising the circuit of the claims of any of the groups 1-5, groups 1-5 are separately patentable with respect to groups 6-10. Detailed reasons why the groups are patentable over the cited references are provided in the Arguments below.

Group 2 is separately patentable over group 1 due to the added structure of group 2. In particular, the recitation in claim 2 that the peripheral device is further configured to electrically disconnect and reconnect at the adjusted speed provides claim 2 of group 2 with structure not recited the independent claim 1 of group 1. Therefore, the dependent claim 2 in group 2 may be found patentable over the cited reference even if the independent claim 1 in group 1 is not. As such, group 2 is separately patentable as compared to group 1. Detailed reasons why claim 2 is separately distinguishable over the cited reference are provided in the Arguments below.

Group 3 is separately patentable over groups 1 and 2 due to the added structure of group 3. In particular, the recitation in claim 3 that the electrical disconnection/reconnection comprises re-enumeration provides claim 3 of group 3 with structure not recited the independent

¹ See, e.g., *Rowe v. Dror*, 42 USPQ2d 1550, 1552 (Fed. Cir. 1997), *Preemption Devices, Inc. v. Minnesota Mining and Manufacturing Company*, 221 USPQ 841, 843 (Fed. Cir. 1984), and *Jones v. Hardy*, 727 F.2d 1524, 1528, 220 USPQ 1021, 1024 (Fed. Cir. 1984) (It is well established that each claim in a patent constitutes a separate invention.).

² Manual of Patent Examining Procedure (M.P.E.P.), Eighth Edition, August, 2001, §1206.

claim 1 of group 1 or the dependent claim 2 of group 2. Therefore, the dependent claim 3 in group 3 may be found patentable over the cited reference even if the independent claim 1 in group 1 and the dependent claim 2 in group 2 are not. As such, group 3 is separately patentable as compared to groups 1 and 2. Detailed reasons why claim 3 is separately distinguishable over the cited reference are provided in the Arguments below.

Group 4 is separately patentable over groups 1-3 due to the added structure of group 4. In particular, the recitation in claim 4 that the peripheral device comprises a Universal Serial Bus (USB) device provides claim 4 of group 4 with structure not recited the independent claim 1 of group 1 or the dependent claims 2 and 3 of groups 2 and 3. Therefore, the dependent claim 4 in group 4 may be found patentable over the cited reference even if the independent claim 1 in group 1 and the dependent claims 2 and 3 in groups 2 and 3 are not. As such, group 4 is separately patentable as compared to groups 1, 2 and 3. Detailed reasons why claim 4 is separately distinguishable over the cited reference are provided in the Arguments below.

Group 5 is separately patentable over groups 1-4 due to the added structure of group 5. In particular, the recitation (i) in claim 6 that the peripheral device is further configured to determine a required speed of the peripheral device, (ii) in claim 7 that the peripheral device is further configured to detect a power conservation of said peripheral device, (iii) in claim 8 that the peripheral device is further configured to switch from a first speed to a second speed in response to the one or more predetermined conditions, and (iv) in claim 9 that the peripheral device is further configured to switch from a first speed to a second speed in response to a user input each provide that the group 5 with structure not recited the independent claim 1 of group 1 or the dependent claims 2, 3 and 4 of groups 2-4. Therefore, the dependent claims 6-9 in group 5 may be found

patentable over the cited reference even if the independent claim 1 in group 1 and the dependent claims 2, 3 and 4 in groups 2-4 are not. As such, group 5 is separately patentable as compared to groups 1-4. Detailed reasons why claim 11 is separately distinguishable over the cited reference are provided in the Arguments below.

The means plus function of group 6 is separately patentable over the apparatus of groups 1-5 and/or the method of groups 7-10 because group 6 includes the means to perform the claimed functions. In particular, independent claim 10 in group 6 provides means for detecting a current operating speed of a peripheral device and means for changing the operating speed of the peripheral in response to one or more predetermined conditions not necessarily provided for in groups 1-5 and 7-10. References to the specific means plus the respective specific functions in claim 10 provide separately distinguishable limitations over the cited reference. Therefore, claim 10 may be found patentable over the cited reference even if groups 1-5 and 7-10 are not. As such, group 6 is separately patentable as compared to groups 1-5 and 7-10. Detailed reasons why claim 10 is separately distinguishable over the cited reference are provided in the Arguments below.

The method of group 7 is separately patentable over the apparatus of groups 1-5 and/or the means plus function of group 6 because group 7 involves process steps and/or specific elements not necessarily in groups 1-6. In particular, independent claim 11 in group 7 provides the step of detecting a current operating speed of the peripheral and change the operating speed of the peripheral in response to one or more predetermined conditions. Independent claim 1 in group 1, dependent claims 2-9 in groups 2-5, and/or independent claim 10 in group 6 recite structure not necessarily provided for in group 7. Therefore, claims 1-10 in groups 1-6 may be found patentable over the cited reference even if claim 11 in group 7 is not. As such, group 7 is separately patentable

as compared to groups 1-6. Detailed reasons why claim 14 is separately distinguishable over the cited reference are provided in the Arguments below.

Group 8 is separately patentable over group 7 due to the added step of group 8. In particular, claim 12 includes the step of electrically disconnecting and reconnecting the peripheral device. Therefore, the dependent claim 12 in group 8 may be found patentable over the cited reference even if the independent claim 11 in group 7 is not. As such, group 8 is separately patentable as compared to group 7. Detailed reasons why claim 12 is separately distinguishable over the cited reference are provided in the Arguments below.

Group 9 is separately patentable over groups 7 and 8 due to the added step of group 9. In particular, claim 13 includes re-enumeration of the peripheral device. Independent claim 1 in group 1, dependent claims 6-9 in groups 2-5, and/or independent claim 10 in group 6 recite structure not necessarily provided for in group 9. Therefore, groups 1-6 may be found patentable over the cited reference even if claim 17 in group 9 is not. As such, group 9 is separately patentable as compared to groups 1-7. Detailed reasons why claim 17 is separately distinguishable over the cited reference are provided in the Arguments below.

Group 10 is separately patentable over group 1 due to the added steps of group 10. In particular, the recitation (i) in claim 14 of the peripheral comprising a Universal Serial Bus, (ii) in claim 15 of one or more predetermined conditions comprising one or more speed considerations and one or more power considerations, (ii) in claim 16 that the peripheral device is further configured to determine a required speed of the peripheral device, (iii) in claim 17 of the peripheral device being further configured to determine a power conservation of the peripheral device, (iv) in claim 18 of the peripheral device being further configured to switch from a first speed to a second

speed in response to the one or more predetermined conditions and (v) in claim 19 of the peripheral device being further configured to switch from a first speed to a second speed in response to a user input provides the claims of group 10 with steps not recited the independent claim 11 of group 7. Therefore, the dependent claims 14-19 in group 10 may be found patentable over the cited reference even if the independent claim 11 in group 7 is not. As such, group 10 is separately patentable as compared to group 1. Detailed reasons why claims 14-10 are separately distinguishable over the cited reference are provided in the Arguments below.

VIII. ARGUMENTS

Selected groupings of the claims are each patentable over Dischler

35 U.S.C. § 103

As set forth on page 6 of the Final Office Action³, claims 1-19 are rejected under 35 U.S.C. § 103(a) as obvious over Dischler.⁴

Three criteria are required to establish a *prima facie* case of obviousness. The Examiner must show that (1) there is some suggestion or motivation, either in the references or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the references, (2) there is a reasonable expectation of success, and (3) the prior art reference (or combination of references) teaches or suggests *all of the claim limitations*.⁵

³Mailed August 23, 1999

⁴U.S. Patent No. 5,771,235

⁵Manual of Patent Examining Procedure (MPEP) §2142. (emphasis added).

The Federal Circuit has held that both the suggestion to modify or combine the references and the reasonable expectation success must be found in the prior art itself, not merely in Appellant's disclosure.⁶ Furthermore, the Board has held that the claimed invention is obvious only if either the references expressly or implicitly suggest the claimed invention, or a convincing line of reasoning is presented by the examiner as to why an artisan would have found the claimed invention to be obvious in light of the teachings of the cited references.⁷

The Examiner has failed to provide a motivation to modify the single §103 reference as required by M.P.E.P §2142 and the relevant case law.⁸ The Examiner's assertion that it would have been obvious to a person of ordinary skill in the art to modify Dischler to obtain the presently claimed invention, clearly evidences the improper use of hindsight. The Federal Circuit has

⁶See *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991).

⁷See *Ex Parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. & Inter. 1985).

⁸*In re Dembiczak*, 175 F.3d 994, 50 U.S.P.Q.2D (BNA) 1614 (Fed. Cir. 1999)

[The] case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. *See, e.g., C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 U.S.P.Q.2D (BNA) 1225, 1232 (Fed. Cir. 1998) (describing "teaching or suggestion or motivation [to combine]" as an "essential evidentiary component of an obviousness holding"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 U.S.P.Q.2D (BNA) 1453, 1459 (Fed. Cir. 1998) ("the Board must identify specifically . . . the reasons one of ordinary skill in the art would have been motivated to select the references and combine them"); *In re Fritch*, 972 F.2d 1260, 1265, 23 U.S.P.Q.2D (BNA) 1780, 1783 (Fed. Cir. 1992) (examiner can satisfy burden of obviousness in light of combination "only by showing some objective teaching [leading to the combination]"); *In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2D (BNA) 1596, 1600 (Fed. Cir. 1988) (evidence of teaching or suggestion "essential" to avoid hindsight); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297, 227 U.S.P.Q. (BNA) 657, 667 (Fed. Cir. 1985) (district court's conclusion of obviousness was error when it "did not elucidate any factual teachings, suggestions or incentives from this prior art that showed the propriety of combination").

“forbid[den] the use of hindsight in the selection of references that comprise a case of obviousness.”⁹

Furthermore, the Examiner fails to provide the required reasoning (e.g., a suggestion or motivation to combine), to support an obviousness rejection based on Dischler, the single §103 reference. The Examiner also fails to explain the specific understanding or principle within the knowledge of a person skilled in the art that would motivate one with no knowledge of the presently claimed invention would modify Dischler.¹⁰ The fact that even with the use of hindsight, the Examiner was not able to find references that teach or suggest the presently claimed invention is further evidence of novelty and nonobviousness.

In short, the Examiner improperly modified Dischler absent a suggestion or motivation to combine.¹¹ Thus, the presently claimed invention is fully patentable over the cited references. As such, the rejection should be reversed.

1. Group 1 (claim 1) is patentable over Dischler

Dischler teaches a variable frequency clock control for microprocessor-based computer systems (Title).

In contrast, the present invention provides an apparatus comprising a peripheral device and a host device. The peripheral device may be connected to the host device. The speed of the peripheral device may be adjusted in response to one or more predetermined conditions.

⁹*In re Rouffet*, 149 F.3d 1350, 47 U.S.P.Q.2D (BNA) 1453 (Fed. Cir. 1998) (citing *In re Gorman*, 933 F.2d 982, 986, 18 U.S.P.Q.2D (BNA) 1885, 1888 (Fed. Cir. 1991).

¹⁰*See Id.*

¹¹*Id.*

Dischler does not teach or suggest all the elements of the presently claimed invention (see page 3, paragraph 7 of the Office Action). Specifically, Dischler fails to teach or suggest a peripheral device, as presently claimed.

The assertion¹² that “it would have been obvious ... to modify teachings of Dischler to utilize the device speed adjustment technique into a peripheral device since such utilization would have enabled a peripheral device to run at optimal speeds” is not sufficient to establish a *prima facie* case of obviousness.¹³ Dischler is silent regarding a peripheral device. The Office Action fails to provide the suggestion or motivation that would lead one skilled in the art to substitute a *peripheral device* for the *computer system* of Dischler.

The position taken in the Office Action that a peripheral device may be substituted for the computer system *without providing a specific motivation or suggestion* in the reference to support such substitution is not proper¹⁴. The Office Action merely states a result, rather than providing a specific motivation or suggestion to support the combination. Therefore, the Examiner

¹² February 12, 2003 Office Action (page 3, paragraph 7).

¹³ M.P.E.P. §2143.01 (The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination), citing *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990) (Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate. The prior art reference taught that the feed means can be run at a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is drawn into the mixing chamber and is entrained in the ingredients during operation. Although a prior art device “may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.” 916 F.2d at 682, 16 USPQ2d at 1432.).

¹⁴ See *In re Fine*.

has failed to establish a *prima facie* case of obviousness¹⁵. As such, the presently claimed invention is fully patentable over Dischler and the rejection should be reversed.

Furthermore, the use of the general skill in the art to supply missing knowledge or prior art to support an obviousness rejection is not proper. As stated by the Federal Circuit:

To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.¹⁶

The conclusory statement that “It would have been obvious for one of ordinary skill in the art at the time of the invention to modify teachings of Dischler to utilize the device speed adjustment technique into a peripheral device since such utilization would have enabled a peripheral device to run at optimal speeds” does not adequately address the issue of motivation to combine.¹⁷ The factual question of motivation is material to patentability and cannot be resolved on subjective belief and unknown authority. It is improper in determining whether a person of ordinary skill would have been led to the modification of a reference simply to use that which the inventor taught against its teacher. The Office Action fails to make the requisite findings based on evidence of record and fails to explain the reasoning by which the findings are deemed to support the conclusion. Therefore, the Office Action fails to meet the Office’s burden of factually establishing a *prima facie*

¹⁵ See *In re Fine*.

¹⁶ W.L. Gore & Assocs. v. Garlock, Inc., 220 USPQ 303, 312-13 (Fed. Cir 1983).

¹⁷ *In re Lee*, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002).

case of obviousness¹⁸. As such, the presently claimed invention is fully patentable over the cited references and the rejection should be reversed.

Evidence of Non-obviousness

Declaration evidence presented with the response filed July 9, 2003 may be summarized as follows: USB devices have three (3) operational modes (i) low speed, (ii) full speed and (iii) high speed¹⁹. Prior to the USB 2.0 Specification, no commercial USB devices supported the high speed mode²⁰. A USB device cannot initiate the switch between the high speed mode and the full speed mode without re-establishing a connection with a host device by removing the physical cable, a process generally referred to as enumeration²¹. U.S. Patent No. 6,311,287 to Dischler et al. does not contemplate electrically disconnecting and reconnecting anything, which is consistent with its application in a microprocessor²². Switching between speeds by electronically disconnecting/reconnecting a peripheral was not an obvious improvement²³. The Examiner has

¹⁸ MPEP §2142.

¹⁹ See ¶4 of the Declaration of Ronald H. Sartore (Exhibit B).

²⁰ See ¶5 of the Declaration of Ronald H. Sartore (Exhibit B).

²¹ See ¶6 of the Declaration of Ronald H. Sartore (Exhibit B).

²² See ¶8 of the Declaration of Ronald H. Sartore (Exhibit B).

²³ See ¶9 of the Declaration of Ronald H. Sartore (Exhibit B).

failed to address the declaration evidence presented. Failure to address such declaration evidence is not proper.²⁴

Evidence of Commercial Success to Support Non-obviousness

The evidence of commercial success presented in the response filed June 9, 2003 is outlined below. Cypress Semiconductor (the Assignee of the present application) began making USB 2.0 devices in 2002. Cypress continues to sell these products²⁵. Cypress USB 2.0 device products include Cypress's EZ-USB SX2, EZ-USB FX2 and EZ-USB AT2. Each of these products includes an apparatus comprising a peripheral device connected to a host device. A speed of the peripheral device is adjusted in response to one or more predetermined conditions (as in claim 1 of the present invention). The peripheral device is configured to electrically disconnect and reconnect at said adjusted speed to said host device (as in claim 2 of the present invention)²⁶. The sales of Cypress USB products are rapidly expanding into the widespread market of USB 2.0 devices²⁷. The invention has experienced significant commercial success. Sales for the product EZ-USB FX2 (a

²⁴All the evidence on the question of obviousness must be considered. *In re Sernaker*, 702 F.2d 989, 996, 217 USPQ 1, 7 (Fed. Cir. 1983); Rebuttal is merely "a showing of facts supporting the opposite conclusion", *In re Heldt*, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970), and may relate to any of the Graham factors including the so-called secondary considerations. *Perkin Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 895-96, 221 USPQ 667, 675 (Fed. Cir. 1984); *In re Sernaker*, 702 F.2d at 996-97, 217 USPQ at 7-8; Prima facie obviousness is a legal conclusion, not a fact. Facts established by rebuttal evidence must be evaluated along with the facts on which the earlier conclusion was reached, not against the conclusion itself. *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976); Objective indicia of nonobviousness ... cannot be ignored as not pertinent. *In re Fielder*, 471, F.2d 640, 644, 176 USPQ 300, 303-04 (CCPA 1973); and Regardless of whether prima facie case is strong or weak, examiner must consider all rebuttal evidence. *In re Piasecki and Meyers*, (CAFC) 223 USPQ 785.

²⁵ See ¶10 of the Declaration of Ronald H. Sartore (Exhibit B).

²⁶ See ¶11 of the Declaration of Ronald H. Sartore (Exhibit B).

²⁷ See ¶12 of the Declaration of Ronald H. Sartore (Exhibit B).

product that incorporates the present invention) amounted to approximately 929,930 units in 2002.

The sales increased to 2,945,020 units so far in 2003²⁸. Therefore, the present invention has had a considerable amount of commercial success²⁹. Furthermore, a press release shows that the assignee of the present invention, Cypress Semiconductor Corporation, has shipped at least 250,000,000 USB controllers³⁰. 79.3 million USB controllers were shipped in 2002 alone. This nearly doubles the rate of controllers shipped in 2001³¹. The commercial success of the present invention is evidence of non-obviousness. The Examiner has failed to address the declaration evidence presented. Failure to address such declaration evidence is not proper.³²

The assertion in the Office Action (page 3, paragraph 7) that “it would have been obvious ... to modify teachings of Dischler to utilize the device speed adjustment technique into a peripheral device since such utilization would have enabled a peripheral device to run at optimal

²⁸ At the time of signing the Declaration of Ronald H. Sartore (Exhibit B).

²⁹ See ¶13 of the Declaration of Ronald H. Sartore (Exhibit B).

³⁰ See Attached Exhibit A.

³¹ See ¶14 of the Declaration of Ronald H. Sartore (Exhibit B).

³² All the evidence on the question of obviousness must be considered. In re Sernaker, 702 F.2d 989, 996, 217 USPQ 1, 7 (Fed. Cir. 1983); Rebuttal is merely “a showing of facts supporting the opposite conclusion”, In re Heldt, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970), and may relate to any of the Graham factors including the so-called secondary considerations. Perkin Elmer Corp. v. Computervision Corp., 732 F.2d 888, 895-96, 221 USPQ 667, 675 (Fed. Cir. 1984); In re Sernaker, 702 F.2d at 996-97, 217 USPQ at 7-8; Prima facie obviousness is a legal conclusion, not a fact. Facts established by rebuttal evidence must be evaluated along with the facts on which the earlier conclusion was reached, not against the conclusion itself. In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976); Objective indicia of nonobviousness ... cannot be ignored as not pertinent. In re Fielder, 471, F.2d 640, 644, 176 USPQ 300, 303-04 (CCPA 1973); and Regardless of whether prima facie case is strong or weak, examiner must consider all rebuttal evidence. In re Piasecki and Meyers, (CAFC) 223 USPQ 785.

speeds" is not sufficient to establish a *prima facie* case of obviousness.³³ Dischler is silent regarding a peripheral device. Neither the Office Action mailed February 2, 2003 nor the Office Action mailed April 24, 2003 provides a suggestion or motivation that would lead one skilled in the art to substitute a peripheral device for the computer system of Dischler.

The position taken in the Office Actions that a peripheral device may be substituted for the computer system, without providing a specific motivation or suggestion in the reference to support such substitution is not proper (see *In re Fine*). The statement on page 8 of the April 24, 2003 Office Action that "any type of device may utilize this speed adjustment device" does not provide a motivation to make the modification. Both Office Actions merely state a result, rather than providing a specific motivation or suggestion to support the combination. Clearly, the Examiner has failed to establish a *prima facie* case of obviousness³⁴. As such, the presently claimed invention is fully patentable over Dischler and the rejection should be reversed.

Furthermore, the use of the general skill in the art (i.e., the Examiner quotes "a routineer in the data processing art") to supply missing knowledge or prior art to support an obviousness rejection is not proper. As stated by the Federal Circuit:

³³ M.P.E.P. §2143.01 (The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination), citing *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990) (Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate. The prior art reference taught that the feed means can be run at a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is drawn into the mixing chamber and is entrained in the ingredients during operation. Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.).

³⁴ See *In re Fine*.

To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.³⁵

The conclusory statement that “It would have been obvious for one of ordinary skill in the art at the time of the invention to modify teachings of Dischler et al. to utilize the device speed adjustment technique into a peripheral device since such utilization would have enabled a peripheral device to run at optimal speeds” does not adequately address the issue of motivation to combine.³⁶ While the sentence has been repeated in both Office Actions (in several places), no details are present. The factual question of motivation is material to patentability and cannot be resolved on subjective belief and unknown authority. It is improper in determining whether a person of ordinary skill would have been led to the combination of references simply to use that which the inventor taught against its teacher. The Office Action fails to make the requisite findings based on evidence of record and fails to explain the reasoning by which the findings are deemed to support the conclusion. Therefore, the Office Action fails to meet the Office’s burden of factually establishing a *prima facie* case of obviousness³⁷. As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

³⁵ W.L. Gore & Assocs. v. Garlock, Inc., 220 USPQ 303, 312-13 (Fed. Cir 1983).

³⁶ In re Lee, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002).

³⁷ MPEP §2142.

2. Group 2 (claim 2) is patentable over Dischler

Regarding claim 2, the cited passage of Dischler is silent regarding (and does not teach or suggest) a peripheral device configured to electrically disconnect and reconnect at an adjusted speed, as presently claimed. As such, claim 2 is independently patentable over the cited reference and the rejection should be reversed.

Furthermore, Applicants' representative has provided an expert declaration³⁸ as (i) evidence of non-obviousness, (ii) evidence of commercial success, and (iii) evidence of a lack of motivation to combine. Contrary to established case law³⁹, the Examiner has failed to give weight to such evidence. Therefore, Dischler fails to teach or suggest the claimed invention and the rejection should be reversed.

³⁸ See the Declaration of Ronald H. Sartore (Exhibit B) filed with the 7-9-03 response.

³⁹ All the evidence on the question of obviousness must be considered. In re Sernaker, 702 F.2d 989, 996, 217 USPQ 1, 7 (Fed. Cir. 1983); Rebuttal is merely "a showing of facts supporting the opposite conclusion", In re Heldt, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970), and may relate to any of the Graham factors including the so-called secondary considerations. Perkin Elmer Corp. v. Computervision Corp., 732 F.2d 888, 895-96, 221 USPQ 667, 675 (Fed. Cir. 1984); In re Sernaker, 702 F.2d at 996-97, 217 USPQ at 7-8; Prima facie obviousness is a legal conclusion, not a fact. Facts established by rebuttal evidence must be evaluated along with the facts on which the earlier conclusion was reached, not against the conclusion itself. In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976); Objective indicia of nonobviousness ... cannot be ignored as not pertinent. In re Fielder, 471, F.2d 640, 644, 176 USPQ 300, 303-04 (CCPA 1973); and Regardless of whether prima facie case is strong or weak, examiner must consider all rebuttal evidence. In re Piasecki and Meyers, (CAFC) 223 USPQ 785.

3. Group 3 (claim 3) is patentable over Dischler

Regarding claim 3, the cited passage of Dischler is silent regarding (and does not teach or suggest) electrical disconnection/reconnecting comprising re-enumeration of the peripheral device. As such, claim 3 is independently patentable over the cited reference.

Furthermore, Applicants' representative has provided an expert declaration⁴⁰ as (i) evidence of non-obviousness, (ii) evidence of commercial success, and (iii) evidence of a lack of motivation to combine. Contrary to established case law⁴¹, the Examiner has failed to give weight to such evidence. Therefore, Dischler fails to teach or suggest the claimed invention and the rejection should be reversed.

⁴⁰ See the Declaration of Ronald H. Sartore (Exhibit B) filed with the 7-9-03 response.

⁴¹ All the evidence on the question of obviousness must be considered. In re Sernaker, 702 F.2d 989, 996, 217 USPQ 1, 7 (Fed. Cir. 1983); Rebuttal is merely "a showing of facts supporting the opposite conclusion", In re Heldt, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970), and may relate to any of the Graham factors including the so-called secondary considerations. Perkin Elmer Corp. v. Computervision Corp., 732 F.2d 888, 895-96, 221 USPQ 667, 675 (Fed. Cir. 1984); In re Sernaker, 702 F.2d at 996-97, 217 USPQ at 7-8; Prima facie obviousness is a legal conclusion, not a fact. Facts established by rebuttal evidence must be evaluated along with the facts on which the earlier conclusion was reached, not against the conclusion itself. In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976); Objective indicia of nonobviousness ... cannot be ignored as not pertinent. In re Fielder, 471, F.2d 640, 644, 176 USPQ 300, 303-04 (CCPA 1973); and Regardless of whether prima facie case is strong or weak, examiner must consider all rebuttal evidence. In re Piasecki and Meyers, (CAFC) 223 USPQ 785.

4. Group 4 (claim 4) is patentable over Dischler

Regarding claim 4, Dischler is silent regarding a USB device. Furthermore, Dischler would not operate as a USB device⁴². As such, claim 4 is independently patentable over the cited reference.

Furthermore, Applicants' representative has provided an expert declaration⁴³ as (i) evidence of non-obviousness, (ii) evidence of commercial success, and (iii) evidence of a lack of motivation to combine. Contrary to established case law⁴⁴, the Examiner has failed to give weight to such evidence. Therefore, Dischler fails to teach or suggest the claimed invention and the rejection should be reversed.

5. Group 5 (claims 6-9) is patentable over Dischler

Regarding claims 6-9, Dischler is silent regarding (i) in claim 6 that the peripheral device is further configured to determine a required speed of the peripheral device, (ii) in claim 7

⁴² See ¶6 of the Declaration of Ronald H. Sartore (Exhibit B).

⁴³ See the Declaration of Ronald H. Sartore (Exhibit B) filed with the 7-9-03 response.

⁴⁴ All the evidence on the question of obviousness must be considered. In re Sernaker, 702 F.2d 989, 996, 217 USPQ 1, 7 (Fed. Cir. 1983); Rebuttal is merely “a showing of facts supporting the opposite conclusion”, In re Heldt, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970), and may relate to any of the Graham factors including the so-called secondary considerations. Perkin Elmer Corp. v. Computervision Corp., 732 F.2d 888, 895-96, 221 USPQ 667, 675 (Fed. Cir. 1984); In re Sernaker, 702 F.2d at 996-97, 217 USPQ at 7-8; Prima facie obviousness is a legal conclusion, not a fact. Facts established by rebuttal evidence must be evaluated along with the facts on which the earlier conclusion was reached, not against the conclusion itself. In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976); Objective indicia of nonobviousness ... cannot be ignored as not pertinent. In re Fielder, 471, F.2d 640, 644, 176 USPQ 300, 303-04 (CCPA 1973); and Regardless of whether prima facie case is strong or weak, examiner must consider all rebuttal evidence. In re Piasecki and Meyers, (CAFC) 223 USPQ 785.

that the peripheral device is further configured to detect a power conservation of said peripheral device, (iii) in claim 8 that the peripheral device is further configured to switch from a first speed to a second speed in response to the one or more predetermined conditions, and (iv) in claim 9 that the peripheral device is further converting to switch from a first speed to a second speed in response to a user input. Therefore, Dischler fails to teach or suggest the claimed invention and the rejection should be reversed.

6. Group 6 (claim 10) is patentable over Dischler

Dischler teaches a variable frequency clock control for microprocessor-based computer systems (Title).

In contrast, the present invention provides an apparatus comprising means for detecting the speed of a peripheral device. The speed of the peripheral device may be adjusted in response to one or more predetermined conditions. Dischler does not teach or suggest all the elements of the presently claimed invention (see page 3, paragraph 7 of the Office Action). Specifically, Dischler fails to teach or suggest a peripheral device, as presently claimed.

The assertion⁴⁵ that “it would have been obvious ... to modify teachings of Dischler to utilize the device speed adjustment technique into a peripheral device since such utilization would have enabled a peripheral device to run at optimal speeds” is not sufficient to establish a *prima facie* case of obviousness.⁴⁶ Dischler is silent regarding a peripheral device. The Office Action fails to

⁴⁵ February 12, 2003 Office Action (page 3, paragraph 7).

⁴⁶ M.P.E.P. §2143.01 (The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination), citing *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990)

provide the suggestion or motivation that would lead one skilled in the art to substitute a *peripheral device* for the *computer system* of Dischler.

The position taken in the Office Action that a peripheral device may be substituted for the computer system *without providing a specific motivation or suggestion* in the reference to support such substitution is not proper⁴⁷. The Office Action merely states a result, rather than providing a specific motivation or suggestion to support the combination. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness⁴⁸. As such, the presently claimed invention is fully patentable over Dischler and the rejection should be reversed.

Furthermore, the use of the general skill in the art to supply missing knowledge or prior art to support an obviousness rejection is not proper. As stated by the Federal Circuit:

To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.⁴⁹

The conclusory statement that "It would have been obvious for one of ordinary skill in the art at the time of the invention to modify teachings of Dischler to utilize the device speed

(Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate. The prior art reference taught that the feed means can be run at a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is drawn into the mixing chamber and is entrained in the ingredients during operation. Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.).

⁴⁷ See *In re Fine*.

⁴⁸ See *In re Fine*.

⁴⁹ W.L. Gore & Assocs. v. Garlock, Inc., 220 USPQ 303, 312-13 (Fed. Cir 1983).

adjustment technique into a peripheral device since such utilization would have enabled a peripheral device to run at optimal speeds" does not adequately address the issue of motivation to combine.⁵⁰ The factual question of motivation is material to patentability and cannot be resolved on subjective belief and unknown authority. It is improper in determining whether a person of ordinary skill would have been led to the modification of a reference simply to use that which the inventor taught against its teacher. The Office Action fails to make the requisite findings based on evidence of record and fails to explain the reasoning by which the findings are deemed to support the conclusion. Therefore, the Office Action fails to meet the Office's burden of factually establishing a *prima facie* case of obviousness⁵¹. As such, the presently claimed invention is fully patentable over the cited references and the rejection should be reversed.

Evidence of Non-obviousness

Declaration evidence presented with the response filed July 9, 2003 may be summarized as follows: USB devices have three (3) operational modes (i) low speed, (ii) full speed and (iii) high speed⁵². Prior to the USB 2.0 Specification, no commercial USB devices supported the high speed mode⁵³. A USB device cannot initiate the switch between the high speed mode and the full speed mode without re-establishing a connection with a host device by removing the physical

⁵⁰ In re Lee, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002).

⁵¹ MPEP §2142.

⁵² See ¶4 of the Declaration of Ronald H. Sartore (Exhibit B).

⁵³ See ¶5 of the Declaration of Ronald H. Sartore (Exhibit B).

cable, a process generally referred to as enumeration⁵⁴. U.S. Patent No. 6,311,287 to Dischler et al. does not contemplate electrically disconnecting and reconnecting anything, which is consistent with its application in a microprocessor⁵⁵. Switching between speeds by electronically disconnecting/reconnecting a peripheral was not an obvious improvement⁵⁶. The Examiner has failed to address the declaration evidence presented. Failure to address such declaration evidence is not proper.⁵⁷

Evidence of Commercial Success to Support Non-obviousness

The evidence of commercial success presented in the response filed June 9, 2003 is outlined below. Cypress Semiconductor (the Assignee of the present application) began making USB 2.0 devices in 2002. Cypress continues to sell these products⁵⁸. Cypress USB 2.0 device

⁵⁴ See ¶6 of the Declaration of Ronald H. Sartore (Exhibit B).

⁵⁵ See ¶8 of the Declaration of Ronald H. Sartore (Exhibit B).

⁵⁶ See ¶9 of the Declaration of Ronald H. Sartore (Exhibit B).

⁵⁷ All the evidence on the question of obviousness must be considered. In re Sernaker, 702 F.2d 989, 996, 217 USPQ 1, 7 (Fed. Cir. 1983); Rebuttal is merely “a showing of facts supporting the opposite conclusion”, In re Heldt, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970), and may relate to any of the Graham factors including the so-called secondary considerations. Perkin Elmer Corp. v. Computervision Corp., 732 F.2d 888, 895-96, 221 USPQ 667, 675 (Fed. Cir. 1984); In re Sernaker, 702 F.2d at 996-97, 217 USPQ at 7-8; Prima facie obviousness is a legal conclusion, not a fact. Facts established by rebuttal evidence must be evaluated along with the facts on which the earlier conclusion was reached, not against the conclusion itself. In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976); Objective indicia of nonobviousness ... cannot be ignored as not pertinent. In re Fielder, 471, F.2d 640, 644, 176 USPQ 300, 303-04 (CCPA 1973); and Regardless of whether prima facie case is strong or weak, examiner must consider all rebuttal evidence. In re Piasecki and Meyers, (CAFC) 223 USPQ 785.

⁵⁸ See ¶10 of the Declaration of Ronald H. Sartore (Exhibit B).

products include Cypress's EZ-USB SX2, EZ-USB FX2 and EZ-USB AT2. Each of these products includes an apparatus comprising a peripheral device connected to a host device. A speed of the peripheral device is adjusted in response to one or more predetermined conditions (as in claim 1 of the present invention). The peripheral device is configured to electrically disconnect and reconnect at said adjusted speed to said host device (as in claim 2 of the present invention)⁵⁹. The sales of Cypress USB products are rapidly expanding into the widespread market of USB 2.0 devices⁶⁰. The invention has experienced significant commercial success. Sales for the product EZ-USB FX2 (a product that incorporates the present invention) amounted to approximately 929,930 units in 2002. The sales increased to 2,945,020 units so far in 2003. Therefore, the present invention has had a considerable amount of commercial success⁶¹. Furthermore, a press release shows that the assignee of the present invention, Cypress Semiconductor Corporation, has shipped at least 250,000,000 USB controllers⁶². 79.3 million USB controllers were shipped in 2002 alone. This nearly doubles the rate of controllers shipped in 2001⁶³. The commercial success of the present invention is evidence of non-obviousness. The Examiner has failed to address the declaration evidence presented. Failure to address such declaration evidence is not proper.⁶⁴

⁵⁹ See ¶11 of the Declaration of Ronald H. Sartore (Exhibit B).

⁶⁰ See ¶12 of the Declaration of Ronald H. Sartore (Exhibit B).

⁶¹ See ¶13 of the Declaration of Ronald H. Sartore (Exhibit B).

⁶² See Attached Exhibit A.

⁶³ See ¶14 of the Declaration of Ronald H. Sartore (Exhibit B).

⁶⁴ All the evidence on the question of obviousness must be considered. In re Sernaker, 702 F.2d 989, 996, 217 USPQ 1, 7 (Fed. Cir. 1983); Rebuttal is merely "a showing of facts supporting the opposite conclusion", In re Heldt, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970), and may relate to any of the Graham factors including the so-called secondary considerations. Perkin

The assertion in the Office Action (page 3, paragraph 7) that “it would have been obvious ... to modify teachings of Dischler to utilize the device speed adjustment technique into a peripheral device since such utilization would have enabled a peripheral device to run at optimal speeds” is not sufficient to establish a *prima facie* case of obviousness.⁶⁵ Dischler is silent regarding a peripheral device. Neither the Office Action mailed February 2, 2003 nor the Office Action mailed April 24, 2003 provides a suggestion or motivation that would lead one skilled in the art to substitute a peripheral device for the computer system of Dischler.

The position taken in the Office Actions that a peripheral device may be substituted for the computer system, without providing a specific motivation or suggestion in the reference to support such substitution is not proper (see *In re Fine*). The statement on page 8 of the April 24, 2003 Office Action that “any type of device may utilize this speed adjustment device” does not provide a motivation to make the modification. Both Office Actions merely state a result, rather than

Elmer Corp. v. Computervision Corp., 732 F.2d 888, 895-96, 221 USPQ 667, 675 (Fed. Cir. 1984); In re Sernaker, 702 F.2d at 996-97, 217 USPQ at 7-8; Prima facie obviousness is a legal conclusion, not a fact. Facts established by rebuttal evidence must be evaluated along with the facts on which the earlier conclusion was reached, not against the conclusion itself. In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976); Objective indicia of nonobviousness ... cannot be ignored as not pertinent. In re Fielder, 471, F.2d 640, 644, 176 USPQ 300, 303-04 (CCPA 1973); and Regardless of whether *prima facie* case is strong or weak, examiner must consider all rebuttal evidence. In re Piasecki and Meyers, (CAFC) 223 USPQ 785.

⁶⁵ M.P.E.P. §2143.01 (The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination), citing *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990) (Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate. The prior art reference taught that the feed means can be run at a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is drawn into the mixing chamber and is entrained in the ingredients during operation. Although a prior art device “may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.” 916 F.2d at 682, 16 USPQ2d at 1432.).

providing a specific motivation or suggestion to support the combination. Clearly, the Examiner has failed to establish a *prima facie* case of obviousness⁶⁶. As such, the presently claimed invention is fully patentable over Dischler and the rejection should be reversed.

Furthermore, the use of the general skill in the art (i.e., the Examiner quotes “a routinist in the data processing art”) to supply missing knowledge or prior art to support an obviousness rejection is not proper. As stated by the Federal Circuit:

To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.⁶⁷

The conclusory statement that “It would have been obvious for one of ordinary skill in the art at the time of the invention to modify teachings of Dischler et al. to utilize the device speed adjustment technique into a peripheral device since such utilization would have enabled a peripheral device to run at optimal speeds” does not adequately address the issue of motivation to combine.⁶⁸ While the sentence has been repeated in both Office Actions (in several places), no details are present. The factual question of motivation is material to patentability and cannot be resolved on subjective belief and unknown authority. It is improper in determining whether a person of ordinary skill would have been led to the combination of references simply to use that which the inventor taught against its teacher. The Office Action fails to make the requisite findings based on evidence of record and fails to explain the reasoning by which the findings are deemed to support the

⁶⁶ See *In re Fine*.

⁶⁷ W.L. Gore & Assocs. v. Garlock, Inc., 220 USPQ 303, 312-13 (Fed. Cir 1983).

⁶⁸ *In re Lee*, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002).

conclusion. Therefore, the Office Action fails to meet the Office's burden of factually establishing a *prima facie* case of obviousness⁶⁹. As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

7. **Group 7 (claim 11) is patentable over Dischler**

Dischler teaches a variable frequency clock control for microprocessor-based computer systems (Title).

In contrast, the present invention provides a method for controlling the speed of a peripheral device. The speed of the peripheral device may be adjusted in response to one or more predetermined conditions. Dischler does not teach or suggest all the elements of the presently claimed invention (see page 3, paragraph 7 of the Office Action). Specifically, Dischler fails to teach or suggest a peripheral device, as presently claimed.

The assertion⁷⁰ that "it would have been obvious ... to modify teachings of Dischler to utilize the device speed adjustment technique into a peripheral device since such utilization would have enabled a peripheral device to run at optimal speeds" is not sufficient to establish a *prima facie* case of obviousness.⁷¹ Dischler is silent regarding a peripheral device. The Office Action fails to

⁶⁹ MPEP §2142.

⁷⁰ February 12, 2003 Office Action (page 3, paragraph 7).

⁷¹ M.P.E.P. §2143.01 (The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination), citing *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990) (Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate. The prior art reference taught that the feed means can be run at a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is

provide the suggestion or motivation that would lead one skilled in the art to substitute a *peripheral device* for the *computer system* of Dischler.

The position taken in the Office Action that a peripheral device may be substituted for the computer system *without providing a specific motivation or suggestion* in the reference to support such substitution is not proper⁷². The Office Action merely states a result, rather than providing a specific motivation or suggestion to support the combination. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness⁷³. As such, the presently claimed invention is fully patentable over Dischler and the rejection should be reversed.

Furthermore, the use of the general skill in the art to supply missing knowledge or prior art to support an obviousness rejection is not proper. As stated by the Federal Circuit:

To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.⁷⁴

The conclusory statement that “It would have been obvious for one of ordinary skill in the art at the time of the invention to modify teachings of Dischler to utilize the device speed adjustment technique into a peripheral device since such utilization would have enabled a peripheral

drawn into the mixing chamber and is entrained in the ingredients during operation. Although a prior art device “may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.” 916 F.2d at 682, 16 USPQ2d at 1432.).

⁷² See *In re Fine*.

⁷³ See *In re Fine*.

⁷⁴ W.L. Gore & Assocs. v. Garlock, Inc., 220 USPQ 303, 312-13 (Fed. Cir 1983).

device to run at optimal speeds" does not adequately address the issue of motivation to combine.⁷⁵ The factual question of motivation is material to patentability and cannot be resolved on subjective belief and unknown authority. It is improper in determining whether a person of ordinary skill would have been led to the modification of a reference simply to use that which the inventor taught against its teacher. The Office Action fails to make the requisite findings based on evidence of record and fails to explain the reasoning by which the findings are deemed to support the conclusion. Therefore, the Office Action fails to meet the Office's burden of factually establishing a *prima facie* case of obviousness⁷⁶. As such, the presently claimed invention is fully patentable over the cited references and the rejection should be reversed.

Evidence of Non-obviousness

Declaration evidence presented with the response filed July 9, 2003 may be summarized as follows: USB devices have three (3) operational modes (i) low speed, (ii) full speed and (iii) high speed⁷⁷. Prior to the USB 2.0 Specification, no commercial USB devices supported the high speed mode⁷⁸. A USB device cannot initiate the switch between the high speed mode and the full speed mode without re-establishing a connection with a host device by removing the physical cable, a process generally referred to as enumeration⁷⁹. U.S. Patent No. 6,311,287 to Dischler et al.

⁷⁵ In re Lee, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002).

⁷⁶ MPEP §2142.

⁷⁷ See ¶4 of the Declaration of Ronald H. Sartore (Exhibit B).

⁷⁸ See ¶5 of the Declaration of Ronald H. Sartore (Exhibit B).

⁷⁹ See ¶6 of the Declaration of Ronald H. Sartore (Exhibit B).

does not contemplate electrically disconnecting and reconnecting anything, which is consistent with its application in a microprocessor⁸⁰. Switching between speeds by electronically disconnecting/reconnecting a peripheral was not an obvious improvement⁸¹. The Examiner has failed to address the declaration evidence presented. Failure to address such declaration evidence is not proper.⁸²

Evidence of Commercial Success to Support Non-obviousness

The evidence of commercial success presented in the response filed June 9, 2003 is outlined below. Cypress Semiconductor (the Assignee of the present application) began making USB 2.0 devices in 2002. Cypress continues to sell these products⁸³. Cypress USB 2.0 device products include Cypress's EZ-USB SX2, EZ-USB FX2 and EZ-USB AT2. Each of these products includes an apparatus comprising a peripheral device connected to a host device. A speed of the

⁸⁰ See ¶8 of the Declaration of Ronald H. Sartore (Exhibit B).

⁸¹ See ¶9 of the Declaration of Ronald H. Sartore (Exhibit B).

⁸² All the evidence on the question of obviousness must be considered. In re Sernaker, 702 F.2d 989, 996, 217 USPQ 1, 7 (Fed. Cir. 1983); Rebuttal is merely "a showing of facts supporting the opposite conclusion", In re Heldt, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970), and may relate to any of the Graham factors including the so-called secondary considerations. Perkin Elmer Corp. v. Computervision Corp., 732 F.2d 888, 895-96, 221 USPQ 667, 675 (Fed. Cir. 1984); In re Sernaker, 702 F.2d at 996-97, 217 USPQ at 7-8; Prima facie obviousness is a legal conclusion, not a fact. Facts established by rebuttal evidence must be evaluated along with the facts on which the earlier conclusion was reached, not against the conclusion itself. In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976); Objective indicia of nonobviousness ... cannot be ignored as not pertinent. In re Fielder, 471, F.2d 640, 644, 176 USPQ 300, 303-04 (CCPA 1973); and Regardless of whether prima facie case is strong or weak, examiner must consider all rebuttal evidence. In re Piasecki and Meyers, (CAFC) 223 USPQ 785.

⁸³ See ¶10 of the Declaration of Ronald H. Sartore (Exhibit B).

peripheral device is adjusted in response to one or more predetermined conditions (as in claim 1 of the present invention). The peripheral device is configured to electrically disconnect and reconnect at said adjusted speed to said host device (as in claim 2 of the present invention)⁸⁴. The sales of Cypress USB products are rapidly expanding into the widespread market of USB 2.0 devices⁸⁵. The invention has experienced significant commercial success. Sales for the product EZ-USB FX2 (a product that incorporates the present invention) amounted to approximately 929,930 units in 2002. The sales increased to 2,945,020 units so far in 2003. Therefore, the present invention has had a considerable amount of commercial success⁸⁶. Furthermore, a press release shows that the assignee of the present invention, Cypress Semiconductor Corporation, has shipped at least 250,000,000 USB controllers⁸⁷. 79.3 million USB controllers were shipped in 2002 alone. This nearly doubles the rate of controllers shipped in 2001⁸⁸. The commercial success of the present invention is evidence of non-obviousness. The Examiner has failed to address the declaration evidence presented. Failure to address such declaration evidence is not proper.⁸⁹

⁸⁴ See ¶11 of the Declaration of Ronald H. Sartore (Exhibit B).

⁸⁵ See ¶12 of the Declaration of Ronald H. Sartore (Exhibit B).

⁸⁶ See ¶13 of the Declaration of Ronald H. Sartore (Exhibit B).

⁸⁷ See Attached Exhibit A.

⁸⁸ See ¶14 of the Declaration of Ronald H. Sartore (Exhibit B).

⁸⁹ All the evidence on the question of obviousness must be considered. In re Sernaker, 702 F.2d 989, 996, 217 USPQ 1, 7 (Fed. Cir. 1983); Rebuttal is merely “a showing of facts supporting the opposite conclusion”, In re Heldt, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970), and may relate to any of the Graham factors including the so-called secondary considerations. Perkin Elmer Corp. v. Computervision Corp., 732 F.2d 888, 895-96, 221 USPQ 667, 675 (Fed. Cir. 1984); In re Sernaker, 702 F.2d at 996-97, 217 USPQ at 7-8; Prima facie obviousness is a legal conclusion, not a fact. Facts established by rebuttal evidence must be evaluated along with the facts on which the earlier conclusion was reached, not against the conclusion itself. In re Rinehart, 531 F.2d 1048,

The assertion in the Office Action (page 3, paragraph 7) that “it would have been obvious ... to modify teachings of Dischler to utilize the device speed adjustment technique into a peripheral device since such utilization would have enabled a peripheral device to run at optimal speeds” is not sufficient to establish a *prima facie* case of obviousness.⁹⁰ Dischler is silent regarding a peripheral device. Neither the Office Action mailed February 2, 2003 nor the Office Action mailed April 24, 2003 provides a suggestion or motivation that would lead one skilled in the art to substitute a peripheral device for the computer system of Dischler.

The position taken in the Office Actions that a peripheral device may be substituted for the computer system, without providing a specific motivation or suggestion in the reference to support such substitution is not proper (see *In re Fine*). The statement on page 8 of the April 24, 2003 Office Action that “any type of device may utilize this speed adjustment device” does not provide a motivation to make the modification. Both Office Actions merely state a result, rather than providing a specific motivation or suggestion to support the combination. Clearly, the Examiner has

1052, 189 USPQ 143, 147 (CCPA 1976); Objective indicia of nonobviousness ... cannot be ignored as not pertinent. In re Fielder, 471, F.2d 640, 644, 176 USPQ 300, 303-04 (CCPA 1973); and Regardless of whether *prima facie* case is strong or weak, examiner must consider all rebuttal evidence. In re Piasecki and Meyers, (CAFC) 223 USPQ 785.

⁹⁰ M.P.E.P. §2143.01 (The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination), citing *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990) (Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate.. The prior art reference taught that the feed means can be run at a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is drawn into the mixing chamber and is entrained in the ingredients during operation. Although a prior art device “may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.” 916 F.2d at 682, 16 USPQ2d at 1432.).

failed to establish a *prima facie* case of obviousness⁹¹. As such, the presently claimed invention is fully patentable over Dischler and the rejection should be reversed.

Furthermore, the use of the general skill in the art (i.e., the Examiner quotes “a routineer in the data processing art”) to supply missing knowledge or prior art to support an obviousness rejection is not proper. As stated by the Federal Circuit:

To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.⁹²

The conclusory statement that “It would have been obvious for one of ordinary skill in the art at the time of the invention to modify teachings of Dischler et al. to utilize the device speed adjustment technique into a peripheral device since such utilization would have enabled a peripheral device to run at optimal speeds” does not adequately address the issue of motivation to combine.⁹³ While the sentence has been repeated in both Office Actions (in several places), no details are present. The factual question of motivation is material to patentability and cannot be resolved on subjective belief and unknown authority. It is improper in determining whether a person of ordinary skill would have been led to the combination of references simply to use that which the inventor taught against its teacher. The Office Action fails to make the requisite findings based on evidence of record and fails to explain the reasoning by which the findings are deemed to support the conclusion. Therefore, the Office Action fails to meet the Office’s burden of factually establishing

⁹¹ See *In re Fine*.

⁹² W.L. Gore & Assocs. v. Garlock, Inc., 220 USPQ 303, 312-13 (Fed. Cir 1983).

⁹³ *In re Lee*, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002).

a prima facie case of obviousness⁹⁴. As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

8. Group 8 (claim 12) is patentable over Dischler

Regarding claim 8, Dischler is silent regarding (and does not teach or suggest) electrically disconnecting and reconnecting the peripheral device. Therefore, Dischler fails to teach or suggest the claimed invention and the rejection should be reversed.

Furthermore, Applicants' representative has provided an expert declaration⁹⁵ as (i) evidence of non-obviousness, (ii) evidence of commercial success, and (iii) evidence of a lack of motivation to combine. Contrary to established case law⁹⁶, the Examiner has failed to give weight to such evidence. Therefore, Dischler fails to teach or suggest the claimed invention and the rejection should be reversed. As such, claim 4 is independently patentable over the cited reference.

⁹⁴ MPEP §2142.

⁹⁵ See the Declaration of Ronald H. Sartore (Exhibit B) filed with the 7-9-03 response.

⁹⁶ All the evidence on the question of obviousness must be considered. In re Sernaker, 702 F.2d 989, 996, 217 USPQ 1, 7 (Fed. Cir. 1983); Rebuttal is merely “a showing of facts supporting the opposite conclusion”, In re Heldt, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970), and may relate to any of the Graham factors including the so-called secondary considerations. Perkin Elmer Corp. v. Computervision Corp., 732 F.2d 888, 895-96, 221 USPQ 667, 675 (Fed. Cir. 1984); In re Sernaker, 702 F.2d at 996-97, 217 USPQ at 7-8; Prima facie obviousness is a legal conclusion, not a fact. Facts established by rebuttal evidence must be evaluated along with the facts on which the earlier conclusion was reached, not against the conclusion itself. In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976); Objective indicia of nonobviousness ... cannot be ignored as not pertinent. In re Fielder, 471, F.2d 640, 644, 176 USPQ 300, 303-04 (CCPA 1973); and Regardless of whether prima facie case is strong or weak, examiner must consider all rebuttal evidence. In re Piasecki and Meyers, (CAFC) 223 USPQ 785.

9. **Group 9 (claim 13) is patentable over Dischler**

Regarding claim 13, Dischler is silent regarding re-enumeration of the peripheral device.

Furthermore, Applicants' representative has provided an expert declaration⁹⁷ as (i) evidence of non-obviousness, (ii) evidence of commercial success, and (iii) evidence of a lack of motivation to combine. Contrary to established case law⁹⁸, the Examiner has failed to give weight to such evidence. Therefore, Dischler fails to teach or suggest the claimed invention and the rejection should be reversed. As such, claim 4 is independently patentable over the cited reference.

10. **Group 10 (claims 14-19) is patentable over Dischler**

Regarding claims 14-19, Dischler is silent regarding the recitation (i) in claim 14 of the peripheral comprising a Universal Serial Bus, (ii) in claim 15 of the one or more predetermined conditions comprising one or more speed considerations and one or more power considerations, (ii) in claim 16 of the peripheral device being further configured to determine a required speed of the

⁹⁷ See the Declaration of Ronald H. Sartore (Exhibit B) filed with the 7-9-03 response.

⁹⁸ All the evidence on the question of obviousness must be considered. In re Sernaker, 702 F.2d 989, 996, 217 USPQ 1, 7 (Fed. Cir. 1983); Rebuttal is merely "a showing of facts supporting the opposite conclusion", In re Heldt, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970), and may relate to any of the Graham factors including the so-called secondary considerations. Perkin Elmer Corp. v. Computervision Corp., 732 F.2d 888, 895-96, 221 USPQ 667, 675 (Fed. Cir. 1984); In re Sernaker, 702 F.2d at 996-97, 217 USPQ at 7-8; Prima facie obviousness is a legal conclusion, not a fact. Facts established by rebuttal evidence must be evaluated along with the facts on which the earlier conclusion was reached, not against the conclusion itself. In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976); Objective indicia of nonobviousness ... cannot be ignored as not pertinent. In re Fielder, 471, F.2d 640, 644, 176 USPQ 300, 303-04 (CCPA 1973); and Regardless of whether prima facie case is strong or weak, examiner must consider all rebuttal evidence. In re Piasecki and Meyers, (CAFC) 223 USPQ 785.

peripheral device, (iii) in claim 17 of the peripheral device being further configured to determine a power conservation of the peripheral device, (iv) in claim 18 of the peripheral device being further configured to switch from a first speed to a second speed in response to the one or more predetermined conditions and (v) in claim 19 of the peripheral device being further configured to switch from a first speed to a second speed in response to a user input. Therefore, Dischler fails to teach or suggest the claimed invention and the rejection should be reversed.

B. CONCLUSION

The single reference cited does not suggest an apparatus comprising a peripheral device connected to a host device, wherein a speed of said peripheral device is adjusted in response to one or more predetermined conditions as recited in claim 1. Hence, the Examiner has clearly erred with respect to the patentability of the claimed invention. It is respectfully requested that the Board overturn the Examiner's rejection of all pending claims, and hold that the claims are not

rendered obvious by the cited reference. However, should the Board find the arguments herein in support of independent claims 1, 10 and/or 11 unpersuasive, the Board is respectfully requested to carefully consider the arguments set forth above in support of each of the independently patentable groups.

Respectfully submitted,

CHRISTOPHER P. MAIORANA, P.C.

Christopher P. Maiorana
Reg. No. 42,829

Dated: November 21, 2003

24025 Greater Mack, Suite 200
St. Clair Shores, MI 48080
(586) 498-0670

IX. APPENDIX

The claims of the present application which are involved in this appeal are as follows:

1 1. An apparatus comprising:

2 a peripheral device connected to a host device, wherein a speed of said peripheral
3 device is adjusted in response to one or more predetermined conditions.

1 2. The apparatus according to claim 1, wherein said peripheral device is further
2 configured to electrically disconnect and reconnect at said adjusted speed to said host device.

1 3. The apparatus according to claim 2, wherein said electrical
2 disconnection/reconnection comprises re-enumeration of said peripheral device.

1 4. The apparatus according to claim 1, wherein said peripheral device comprises
2 a Universal Serial Bus (USB) device.

1 5. The apparatus according to claim 1, wherein said one or more predetermined
2 conditions comprise one or more speed considerations and one or more power considerations.

1 6. The apparatus according to claim 1, wherein said peripheral device is further
2 configured to determine a required speed of said peripheral device.

1 7. The apparatus according to claim 1, wherein said peripheral device is further
2 configured to determine a power conservation of said peripheral device.

1 8. The apparatus according to claim 1, wherein said peripheral device is further
2 configured to switch from a first speed to a second speed in response to said one or more
3 predetermined conditions.

1 9. The apparatus according to claim 1, wherein said peripheral device is further
2 configured to switch from a first speed to a second speed in response to a user input.

1 10. An apparatus comprising:
2 means for detecting a current operating speed of a peripheral device; and
3 means for changing the operating speed of said peripheral in response to one or more
4 predetermined conditions.

1 11. A method for controlling the speed of operation of a peripheral device,
2 comprising the steps of:
3 (A) detecting a current operating speed of said peripheral; and
4 (B) changing the operating speed of said peripheral in response to one or more
5 predetermined conditions.

1 12. The method according to claim 11, wherein step (B) further comprises the step

2 of:

3 electrically disconnecting and reconnecting said peripheral device.

1 13. The method according to claim 11, wherein step (B) further comprises re-

2 enumeration of said peripheral device.

1 14. The method according to claim 11, wherein said peripheral device comprises

2 a Universal Serial Bus (USB) device.

1 15. The method according to claim 11, wherein said one or more predetermined

2 conditions comprise one or more speed considerations and one or more power considerations.

1 16. The method according to claim 11, wherein said peripheral device is further

2 configured to determine required speed of said peripheral device.

1 17. The method according to claim 11, wherein said peripheral device is further

2 configured to determine a power conservation of said peripheral device.

1 18. The method according to claim 11, wherein said peripheral device is further

2 configured to switch from a first speed to a second speed in response to said one or more
3 predetermined conditions.

1 19. The method according to claim 11, wherein said peripheral device is further
2 configured to switch from a first speed to a second speed in response to a user input.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Ronald H. Sartore et al.

Assignee: Cypress Semiconductor Corporation

Title: SPEED POWER EFFICIENT USB METHOD

Serial No.: 09/590,831 Filed: June 9, 2000

Examiner: Perveen, R. Art Unit: 2182

Attorney Docket No.: 0325.00369

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF RONALD H. SARTORE PURSUANT TO 37 C.F.R. S 1.132

I, Ronald H. Sartore hereby declare as follows:

1. I am presently Vice President of Engineering, Personal Communication Division for Cypress Semiconductor Corporation and have been employed by Cypress in various capacities for more than four years. Prior to my employment at Cypress, I was the founder and CEO of Anchor Chips, founded in December 1995. Anchor Chips was acquired by Cypress in May of 1999.
2. My responsibilities as Vice President include the development of Personal Communications devices products, including Universal Serial Bus (USB) devices.

3. I have reviewed the claims of the present invention.
4. USB devices have three (3) operational modes (i) low speed, (ii) full speed and (iii) high speed.
5. Prior to the USB 2.0 Specification, no commercial USB devices supported the high speed mode.
6. A USB device cannot initiate the switch between the high speed mode and the full speed mode without re-establishing a connection with a host device by removing the physical cable, a process generally referred to as enumeration.
7. Claim 2 of the present invention provides a process of electrically disconnecting and reconnecting a peripheral at an adjusted speed, a process called re-enumeration (see claim 3).
8. U.S. Patent No. 6,311,287 to Dischler et al. does not contemplate electrically disconnecting and reconnecting anything, which is consistent with its application in a microprocessor.
9. Based upon my experience and work in the field of USB, the switching between modes by electronically disconnecting/reconnecting a peripheral was not an obvious improvement.
10. Cypress began making USB 2.0 devices in 2002. Cypress continues to sell these products.

11. Cypress' USB 2.0 device products include Cypress's EZ-USB SX2, EZ-USB FX2 and EZ-USB AT2. Each of these products includes an apparatus comprising a peripheral device connected to a host device. A speed of the peripheral device is adjusted in response to one or more predetermined conditions (claim 1). The peripheral device is configured to electrically disconnect and reconnect at said adjusted speed to said host device (claim 2).
12. The sales of Cypress USB products are rapidly expanding into the widespread market of USB 2.0 devices.
13. The invention has experienced significant commercial success. Sales for the product EZ-USB FX2 (a product that incorporates the present invention) amounted to approximately 929,930 units in 2002. The sales increased to 2,945,020 units so far in 2003. Therefore, the present invention has had a considerable amount of commercial success.
14. Furthermore, in the attached Exhibit A, a press release shows that the assignee of the present invention, Cypress Semiconductor Corporation, has shipped at least 250,000,000 USB controllers. 79.3 million USB controllers were shipped in 2002 alone. This nearly doubles the rate of controllers shipped in 2001.
15. I hereby declare that all statements made herein of my knowledge are true and that all statements made on information and belief are true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code

and that such willful false statements may jeopardize the validity of the application or patents issued therefrom.

Date: 7-8-03

Robert H. Steiner



PERSONAL ACCESS ENTERPRISE METRO CORE



Jul. 01, 2003

[About Us: Press Releases](#)**PRESS RELEASES****Cypress Ships 250 Millionth USB Controller****Release Date: Jul. 01, 2003**

Cypress Surpasses Quarter of a Billion Units on Surging Sales of USB 2.0 Family

Cypress PR

SAN JOSE, Calif., July 1, 2003 – Cypress Semiconductor Corporation (NYSE: CY)—the industry leader in USB—today announced shipment of its 250 millionth USB controller. The semiconductor devices, which began shipping in 1997, are used in a wide array of USB peripherals, hubs and embedded hosts. Fueled by growing consumer demand for USB 2.0-enabled PCs and peripherals, Cypress shipped 79.3 million USB controllers in 2002, nearly doubling its run rate from the previous year.

"Reaching this significant milestone validates Cypress's technology leadership in the USB space and also calls attention to the ubiquity of USB as the preferred interface for connecting peripherals," said Brian O'Rourke, senior analyst at In-Stat/MDR. "We believe that shipments of USB-enabled products worldwide will remain strong over the next four years, growing at a compound annual rate of 18.2 percent between 2002 and 2007."

"We see the market continuing to grow as USB matures beyond simple peripheral-to-PC connections," said Paul Novell, Wired Business Unit managing director for Cypress Semiconductor's Personal Communications Division. "We are looking at peripheral-to-peripheral connections with USB On-the-Go, and exploring embedded applications that will bring other-standards-based devices into the USB world, taking advantage of the technology's plug-and-play flexibility and broad installed base."

Cypress's USB technology is designed into many consumer, retail and business products, ranging from mice, keyboards, hubs and mass storage peripherals, to video and multimedia players, set top boxes and photo printers. The company's customer base includes some of the most-recognized brand names in the industry.

"Most consumers are unaware that Cypress is inside the products they're using, but growing sales of Cypress-enabled USB products speak volumes about their satisfaction with, and OEM commitment to the technology," Novell said.

About Cypress' USB Products:

Cypress offers the industry's broadest portfolio of low-, full- and high-speed USB devices and development tools. An

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industry pioneer of USB technology, and early driver of the USB On-The-Go supplement, Cypress offers a wide array of USB products, including integrated microcontrollers for hosts, hubs and peripherals, as well as other discrete components such as transceivers, serial interface engines and bridge devices. This broad portfolio enables designers to choose between the benefits of using an integrated solution or supplementing their own designs with key Cypress devices. Cypress also complements their silicon offering with a wide array of reference designs, software kits, and design services.

About Cypress:

Cypress Semiconductor Corporation (NYSE: CY) is Connecting from Last Mile to First Mile™ with high-performance solutions for personal, network access, enterprise, metro switch, and core communications-system applications. Cypress Connects™ using wireless, wireline, digital, and optical transmission standards, including USB, Fibre Channel, SONET/SDH, Gigabit Ethernet, and DWDM. Leveraging its process and system-level expertise, Cypress makes industry-leading physical layer devices, framers, and network search engines, along with a broad portfolio of high-bandwidth memories, timing technology solutions, and programmable microcontrollers. More information about Cypress is accessible online at www.cypress.com.

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